

CLAIMS

5 1. A communication system comprising:
one or more independent communication networks, each network
including:
one or more resource management devices,
resources managed by the resource management device, and
one or more resource arbitration servers; and
a communication device adapted for communication on each of the one or
more communication networks.

10 2. The communication system of claim 1 wherein the communication
device further comprises:
a resource use requesting device; and
a communication circuit for communicating a resource use request from the
resource requesting device to a resource arbitration server of a
communication network.

20 3. The communication system of claim 2 wherein the communication
device further comprises:
a control circuit coupled with the communication circuit and configured to
interpret reports of resource reservation results received by the
communication circuit from the resource arbitration server in
response to the resource use request.

25 4. The communication system of claim 3 wherein the communication
device further comprises:
a selection device configured to select resources for use based on a
received report of resource reservation results,
the communication circuit being configured to communicate at least one of
30 a reservation of resources selected for use and a cancellation of
resources selected for non-use to the resource arbitration server.

5 5. - The communication system of claim 4 wherein the control circuit is further configured to initiate a notification of end of usage of the resources for use for communication by the communication circuit to the resource arbitration server.

6. The communication system of claim 4 wherein the communication device further comprises:

a task execution circuit which generates a resource reservation

confirmation for communication to the resource arbitration server by the communication circuit upon usage of the resources for use.

7. The communication system of claim 4 wherein the communication circuit is further configured to receive a report recording usage of the resources selected for use:

8. The communication system of claim 7 wherein the communication circuit is further configured to receive a request of payment for usage fees for the usage of the resources selected for use:

20 9. The communication system of claim 1 wherein the communication circuit comprises a radio receiver and a radio transmitter.

10. The communication system of claim 1 wherein the communication circuit comprises a network access card.

11. The communication system of claim 1 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:
a communication circuit to receive a resource use request from the communication device.
- 5
12. The communication system of claim 11 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:
an authentication device for authenticating a user associated with the resource use request.
- 10
13. The communication system of claim 11 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:
a resource location device which locates within the network associated with the each resource arbitration server available resources satisfying conditions of the resource use request.
- 15
14. The communication system of claim 11 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:
a resource reservation device which sends to a resource management device a resource reservation.
- 20
15. The communication system of claim 14 wherein the resource reservation device is further configured to send user authentication data to the resource management device.
- 25
16. The communication system of claim 14 wherein the resource reservation device is further configured to compile reservation results from the resource management device and to validate the reservation results against received the resource use request.

17. The communication system of claim 16 wherein the resource reservation device is further configured to reserve resources in response to validating the reservation results.

5 18. The communication system of claim 16 wherein the resource reservation device is further configured to provide a notification to communication device when there are resources satisfying the received resource use request.

10 19. The communication system of claim 11 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:

a resource cancellation device which receives from the communication device a notification of end of usage of selected resources and notifies the selected resources of the end of the notification of end of usage.

15 20. The communication system of claim 11 wherein each resource arbitration servers of the one or more resource arbitration servers comprises:

an accounting device which calculates a resource usage fee based on a record of use of each resource.

20 21. The communication device of claim 20 wherein the accounting device is configured to request payment of the resource usage fee from a user of the communication device.

25 22. The communication system of claim 1 wherein each resource management device of the one or more management devices comprises:

a control device configured to determine the nature of service provided by the resources managed by the each resource management device and provide a report within a network associated with the each resource management device.

- 5 23. The communication system of claim 1 wherein each resource management device of the one or more management devices comprises:
a communication device configured to receive and interpret requests to check availability of resources.
- 10 24. The communication system of claim 1 wherein each resource management device of the one or more management devices comprises:
a reservation management device which manages resource reservations based on at least one of nature of a service provided by the resource, quantity of a service requested, requested time of use of the service, and user information associated with the requestor.
- 15 25. The communication system of claim 24 wherein the reservation management device is further configured to accept resource reservations for selected resources and reserve the selected resources.
- 20 26. The communication system of claim 25 wherein the reservation management device is further configured to report reservation results within the network associated with the resource management device.
- 25 27. The communication system of claim 25 wherein the reservation management device is further configured to compare content of a resource reservation for a resource with actual use status for the resource.
- 30 28. The communication system of claim 27 wherein the reservation management device is further configured to receive and interpret resource reservation cancellation requests.
29. The communication system of claim 28 wherein the resource management device is configured to cancel a resource reservation in response to a reservation cancellation request.

5 30. The communication system of claim 28 wherein the resource management device is configured to 24 end provision of a resource's service in response to one of a notification by a user that use of the resource has ended, contents of a resource reservation and actual use status of the resource.

40 31. The communication system of claim 1 wherein each resource management device of the one or more management devices comprises:

45 an authentication device which verifies individuals attempting to reserve use of the resources managed by the resource management device.

50 32. A communication device operable in conjunction with one or more communication networks, each communication network including resources accessible by the communication device, a resource management device and a resource arbitration server, the communication device comprising:

55 a resource use requesting device;

60 a communication circuit for communicating a resource use request from the resource requesting device to a resource arbitration server of a communication network; and

65 20 a control circuit coupled with the communication circuit and configured to interpret reports of resource reservation results received by the communication circuit from the resource arbitration server in response to the resource use request.

70 25 33. The communication device of claim 32 wherein the communication circuit comprises a radio receiver and a radio transmitter.

75 30 34. The communication device of claim 32 wherein the communication circuit comprises a network access card.